

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A process for producing an olefin polymer, comprising:

characterized by

carrying out solution polymerization of ethylene and one or more kinds of monomers
selected from α -olefins at a temperature ranging from 120 to 300°C, in the presence of a catalyst
for olefin polymerization, said catalyst consisting essentially of: composed of:

(A) a bridged metallocene compound represented by a general formula [I] described
below, and

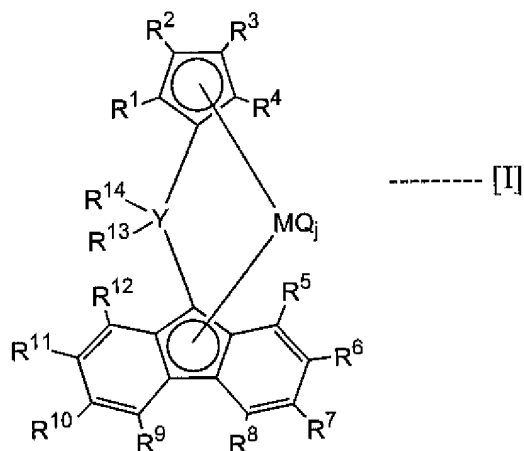
~~(B) at least one or more kinds of compounds selected from the group consisting of~~

~~(b-1) an organoaluminum oxy compound,~~

~~(b-2) a compound which forms an ion pair in a reaction with the bridged metallocene~~

~~compound (A), and~~

~~(b-3) an organoaluminum compound;~~



(wherein R^1 , R^2 , R^3 , R^4 , R^5 , R^8 , R^9 , and R^{12} are each ~~selected from~~ a hydrogen atom, a hydrocarbon group, ~~and or~~ a silicon-containing group, and may be identical or different, or neighboring groups may be bonded together ~~combined~~ to form a ring structure;-

R^6 and R^{11} are each identical to each other ~~atoms or identical groups selected from and~~ are each a hydrogen atom, a hydrocarbon group, and or a silicon-containing group, or and may be bonded together ~~combined~~ to form a ring structure;

R^7 and R^{10} are each identical to each other ~~atoms or identical groups selected from and~~ are a hydrogen atom, a hydrocarbon group, and or a silicon-containing group, or and may be bonded together ~~combined~~ to form a ring structure;

R^6 , R^7 , R^{10} and R^{11} are not simultaneously hydrogen atoms;-

R^{13} and R^{14} are each an aryl group, and may be identical or different;

M represents Ti, Zr or Hf, ~~and is preferably Zr or Hf;~~

Y represents carbon or silicon;

Q represents halogen, a hydrocarbon group, an anionic ligand, or a lone electron pair, and may be selected from ~~in~~ an identical or different combination of neutral ligands capable of coordination; and

j is an integer of 1 to 4, and \rightarrow

(B) at least one or more kinds of compounds selected from the group consisting of

(b-1) an organoaluminum oxy-compound, and

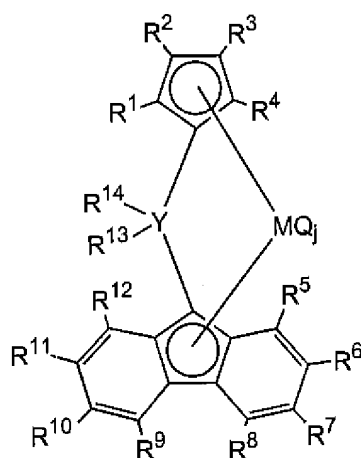
(b-3) an organoaluminum compound.

2. (Canceled)

3. (New) A process for producing an olefin polymer, comprising:

carrying out solution polymerization of ethylene and one or more kinds of monomers selected from α -olefins at a temperature ranging from 120 to 300°C, in the presence of a catalyst for olefin polymerization, said catalyst comprising:

(A) a bridged metallocene compound represented by the general formula [I] described below,



wherein R^1 , R^2 , R^3 , R^4 , R^5 , R^8 , R^9 and R^{12} are each a hydrogen atom, a hydrocarbon group, or a silicon-containing group, and may be identical or different, or neighboring groups may be bonded together to form a ring structure;

R^6 and R^{11} are identical and are each a hydrocarbon group or a silicon-containing group, or may be bonded together to form a ring structure;

R^7 and R^{10} are identical to each other and are each a hydrocarbon group or a silicon-containing group, or may be bonded together to form a ring structure;

R^{13} and R^{14} are each an aryl group, and may be identical or different;

M is Ti, Zr or Hf;

Y represents carbon or silicon;

Q represents halogen, a hydrocarbon group, an anionic ligand, or a lone electron pair, and may be selected from an identical or different combination of neutral ligands capable of coordination; and

j is an integer of 1 to 4, and

(B) at least one compound selected from the group consisting of

(b-1) an organoaluminum oxy compound,

(b-2) a compound which reacts with the bridged metallocene compound (A) to form an ion pair, and

(b-3) an organoaluminum compound.

4. (New) The process of claims 1 or 3, wherein M represents Zr or Hf.